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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/562,511	12/28/2005	Bernd Clauberg	US030201	7969

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EXAMINER	
ALEMU, EPHREM	

ART UNIT	PAPER NUMBER
2821	

MAIL DATE	DELIVERY MODE
07/03/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/562,511	CLAUBERG, BERND	
	Examiner	Art Unit	
	Ephrem Alemu	2821	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *28 December 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-10* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-10* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *28 December 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *12/28/2005*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Oath/Declaration

1. The oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02.

> The oath or declaration is defective because:
> It does not identify the foreign application for patent or inventor's certificate on which priority is claimed pursuant to 37 CFR 1.55, and any foreign application having a filing date before that of the application on which priority is claimed, by specifying the application number, country, day, month and year of its filing.

Specification

2. The disclosure is objected to because of the following informalities: The preliminary amendment filed 12/28/05 has not been entered because it does not conform to 37 CFR 1.121 because: the oath or declaration is defective and also the preliminary amendment does not include a statement regarding the application being a national stage entry of PCT/IB04/02056 filed June 21, 2004 which claims priority from the provisional application. Appropriate correction is required.

Claim Objections

3. Claims 9 and 10 are objected to because of the following informalities: in claim 9, line 2, replace "said forth LED" with --said third LED--; and in claim 10, line 2, replace "said fifth LED circuit" with --said fourth LED circuit-- to correct minor typographical error. Appropriate correction is required.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1 and 2 are rejected under 35 U.S.C. 102(b) as being anticipated by Smalls (2003/0222791).

Re claim 1, Smalls discloses a traffic light (i.e., portable warning light apparatus), comprising: a voltage source (60, 62); a first LED circuit (70, 84) including a series connection of a first LED array (70), a first current limiter (i.e., resistors connected with the first LED array 70) and a first electronic switch (84) to the voltage source (60) (Fig. 6; abstract); and

a switch controller (80) operable to selectively open and close the first electronic switch (84), wherein the first current limiter (i.e., resistors connected with the first LED array 70) controls a flow of a first LED current from the voltage source (60, 62) through the first LED array (70) whenever the switch controller (80) closes the first electronic switch (84), and wherein the flow of the first LED current from the voltage source (60, 62) through the first LED array (70) is impeded whenever the switch controller (80) opens the first electronic switch (84) (Fig. 6).

Re claim 2, Smalls further discloses a second LED circuit (i.e., resistors connected with the second LED array 72, and switch 86) connected in parallel to the first LED circuit (i.e., resistors connected with the first LED array 70, and switch 84), the second LED circuit including a series connection of a second LED array (84), a second current limiter (i.e., resistors connected

with the second LED array 72) and a second electronic switch (86) to the voltage source (60, 62), wherein the switch controller (80) is further operable to selectively open and close the second electronic switch (62), wherein the second current limiter (i.e., resistors connected with the second LED array 72) controls a flow of a second LED current from the voltage source (60, 62) through the second LED array (72) whenever the switch controller (80) closes the second electronic switch (86), and wherein the flow of the second LED current from the voltage source (60, 62) through the second LED array (72) is impeded whenever the switch controller (80) opens the second electronic switch (86) (Fig. 6; paragraphs [0045] to [0047]).

6. Claims 6-8 are rejected under 35 U.S.C. 102(b) as being anticipated by Hutchison (US 2002/0175826).

Re claim 6-8, Hutchison discloses a traffic light (Fig. 4a), comprising: a current source (i.e., Q9); a first, second and third LED circuits (i.e., LED strings 26, 28, 30) connected in series to the current source (i.e., voltage source 40), the first, second and third LED circuits (i.e., LED strings 26, 28, 30) including a parallel connection of a first, second and third LED arrays (i.e., LEDs within first, second and third strings 26, 28, 30) and a first, second and third electronic switches (Q9, Q8, Q15); and a switch controller (64) operable to selectively open and close each of the first, second and third electronic switches (Q9, Q8, Q15), wherein a first, second and third LED current flow from the current source (i.e., voltage source 40) through the first, second and third LED array (i.e., LEDs within string 26) whenever the switch controller (64) opens the first, second and third electronic switches (Q9, Q8, Q15), and wherein the flow of the first, second and third LED current from the current source (i.e., voltage source 40) through the first, second and third LED array (i.e., LEDs within strings 26, 28, 30) is impeded whenever the switch controller

(64) closes the first, second and third electronic switches (Q9, Q8, Q15) (Figs. 3, 4a; paragraphs [0008], [0016], [0022], [0023]).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Colby (US 6,809,655) in view of Swanson (US 6,362,578).

Re claims 1-5, Although, Colby's invention is directed to traffic signal including one or more lamps configured to each display a plurality of pattern by selectively powering different group bulbs; Colby also discloses a known traffic light comprising a traffic light (420) comprising a first to fifth LED circuits (i.e., 110A, 110B, 110C, 440, 450) that are selectively controlled by a single control module including electronics as illustrated and described in Figs. 2B, 4B; Col. 1, lines 24- 30; Col. 1, line 48- Col. 2, line 4).

However, Colby does not show the detailed structure of the single control module for controlling the first to fifth LED circuits (i.e., 110A, 110B, 110C, 440, 450) for displaying a specific pattern of traffic light.

In a related art area, Swanson LED driver circuit and method for controlling a first to third LED circuit; wherein each of the first to third LED circuit including a series connection of a first to third LED arrays (14, 16, 18), a first to third current limiters (30, 30, 30) and a first to third electronic switches (24, 26, 28) to the voltage source (B+); wherein the first, second and

third LED circuits are connected in parallel (Fig. 1; Col. 1, lines 38-47; Col. 3, lines 13-19; Col. 7, 12-19); and

a switch controller (i.e., PWM 38) operable to selectively open and close the first to third electronic switches (24, 26, 28), wherein the first to third current limiters (30, 30, 30) controls a flow of one of a first to third LED current from the voltage source (B+) through the first to third LED arrays (14, 16, 18) whenever the switch controller (i.e., PWM 38) selectively closes one of the first to third electronic switches (24, 26, 28), and wherein the flow of one of a first to third LED current from the voltage source (B+) through the first to third LED arrays (14, 16, 18) is impeded whenever the switch controller (i.e., PWM 38) selectively open one of the first to third electronic switches (24, 26, 28) (Fig. 1; Col. 1, lines 38-47; Col. 3, lines 13-19; Col. 7, lines 12-19; Col. 1, lines 34-37).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Colby's single control module for controlling the first to fifth LED circuits (i.e., 110A, 110B, 110C, 440, 450) by LED driver method as taught by Swanson for the purpose of providing an LED driver for an array of light emitting diodes that has discrete functionality and provide an efficient duty cycle and voltage control, and single switch circuit as taught by Swanson (Col. 1, lines 34-37).

9. Claims 6-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over in view of Colby (US 6,809,655) in view of St-Germain (US 6,642,666).

Re claims 6-10, Although, Colby's invention is directed to traffic signal including one or more lamps configured to each display a plurality of pattern by selectively powering different group bulbs; Colby also discloses a known traffic light comprising a traffic light (420)

comprising a first to fifth LED circuits (i.e., 110A, 110B, 110C, 440, 450) that are selectively controlled by a single control module including electronics as illustrated and described in Figs. 2B, 4B; Col. 1, lines 24- 30; Col. 1, line 48- Col. 2, line 4).

However, Colby does not show the detailed structure of the single control module for controlling the first to fifth LED circuits (i.e., 110A, 110B, 110C, 440, 450) for displaying a specific pattern of traffic light.

Xu discloses a single driver for multiple light emitting diodes comprising: a current source (i.e., via node IN3); a first to X LED circuits (Figs. 5, 6; paragraphs [0037] to [0038]);

the first to X LED circuits connected in series to the current source (i.e., via node IN3) (Figs. 5, 6; paragraphs [0037] to [0038]),

each of the first to X LED circuits including a parallel connection of a first to X LED arrays (i.e., L11-L1y to Lx1-Lxy) and a first to X electronic switch (i.e., SW1 to Sw1X) (Figs. 5, 6; paragraphs [0037] to [0038]), and

a switch controller (not shown) operable to selectively open and close each of the first to X electronic switches (S11 to SWX1), wherein one of a first to X LED current flows from the current source (i.e., current source connected via node IN3); through one of the first to X LED arrays (i.e., L11-L1y to Lx1-Lxy) whenever the switch controller (not shown) selectively open one of the first to X electronic switch (i.e., SW1 to Sw1X), and wherein the flow of one of the first to X LED current from the current source (i.e., current source connected via node IN3) through one of the first to X LED arrays (i.e., L11-L1y to Lx1-Lxy) is impeded whenever the switch controller (not shown) closes one of the first to X electronic switch (i.e., SW1 to Sw1X) (Figs. 5, 6; paragraphs [0037] to [0038]).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Colby's single control module for controlling the first to fifth LED circuits (i.e., 110A, 110B, 110C, 440, 450) by single driver for multiple light emitting diodes as taught by Xu for no other reason than controlling Colby's first to fifth LED circuits (i.e., 110A, 110B, 110C, 440, 450) for displaying a specific pattern of traffic light as is well known in the art.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. St-Germain (US 6,642,666) ; and Hochstein (US 5,633,629); also teach similar inventive subject matter.

Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ephrem Alemu whose telephone number is (571) 272-1818. The examiner can normally be reached on M-F 9:00 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Douglas W Owens can be reached on (571) 272-1662. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

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EA
6-25-07

Douglas W. Owens 6/25/07

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